Fxbox v 2.0 User Manual

1010music

Welcome

Welcome to the fxbox 2.0 User Manual. One of the core aspects of creating music with the Eurorack system is tweaking the sound. Our fxbox module provides numerous audio processing effects together with a configurable effects engine that enable you to customize the sound in a nearly endless number of combinations.

Fxbox 2.0 provides 16 performance effects with the ability to create two separate chains of stereo effects that feed two pairs of stereo outputs. You can choose which inputs and effects to include in each chain and the order in which the effects are applied. You can further tweak each effect by adjusting effect parameters using knobs or on screen X-Y Controls.

In this manual, we will start by giving you an overview of the front panel hardware and the Main screen so you know what you have to work with. After that, we will set up the module. Next we will quickly discuss basic effects chain management, effects parameters, muting capabilities and basic preset management. Then we will walk you through how to use the sequencers and modulators. After that we will cover how to synchronize fxbox with other modules. Finally, we will go into more depth about preset management tasks and discuss how to upgrade or swap out your firmware.

Fxbox is part of the Series 1 family of 1010music Eurorack modules. This means that you can swap out the firmware on this module for other Series 1 firmware, currently bitbox and synthbox. Only one set of firmware can be run at a time, but you are free to swap out firmware as often as you like.

If you would rather get a quick overview of how to use the module, see the Fxbox Quick Start Guide that came with the module and that is also available online at https://1010music.com/fxbox-documentation.

This manual documents the functionality available in version 2.0 of fxbox. If you have an earlier version of the fxbox firmware, you can upgrade for free. See Updating and Swapping Firmware, Audio Files and Presets **below** for the steps to upgrade. To determine which version of the firmware you are running, press and hold the **Home** button until you see the **Menu** screen shown on the right. The number in the lower right corner is the current version. The screen shot shows version 2.0.3.
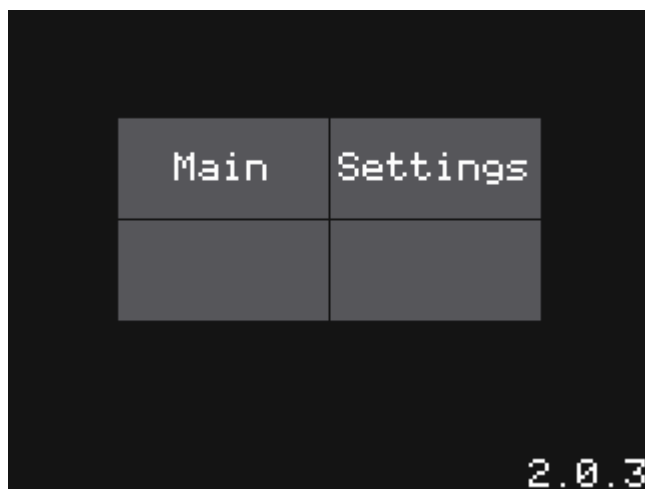

Figure 1: Menu Screen

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Overview

Fxbox is a highly flexible effects processor with an intuitive touch screen interface. You select the combination of effects you want by choosing which effect is used in each of the 16 effects cells per preset chain. You configure the effects by setting values for effect parameters, including configuring external modulation of many parameters. There are 2 effects chains per preset, and you control the routing of the two audio inputs into each of the chains and their respective stereo outputs. Use the XY pad to control two different aspects of the sound at once. Use the internal step sequencer to create tricked out, remix style effects. You can create complex layers and builds using the touch screen to isolate the individual effects.

Front Panel Overview

The front panel of fxbox contains a touch screen, control knobs, **HOME** and **INFO** buttons, **MIDI** and **CLOCK** input jacks, **CV Trigger** input jacks, **CV Modulator** jacks, and 2 pairs of stereo **Output Jacks** as shown in Figure 1. The jacks in the right column of CV Triggers serve double duty as EXT5 through EXT8 for use in CV modulation. The **INFO** and **HOME** buttons at the top of the front panel of fxbox are used to navigate the screens. Press **INFO** to view the information screen for the current selection. In some cases, you can press **INFO** more than once to get to deeper information. The **HOME** button generally takes you back a screen. If you get lost, you can press **HOME** until you get back to the Main screen. The control knobs are used to cycle through options on the screen. When there are several parameters on the screen, use the control knob closest to a parameter to set its value. You can use the touch screen to select effect cells in the grid, and touch on-screen buttons to take an action. You can also drag your finger across the screen to use XY positioning to control effects.
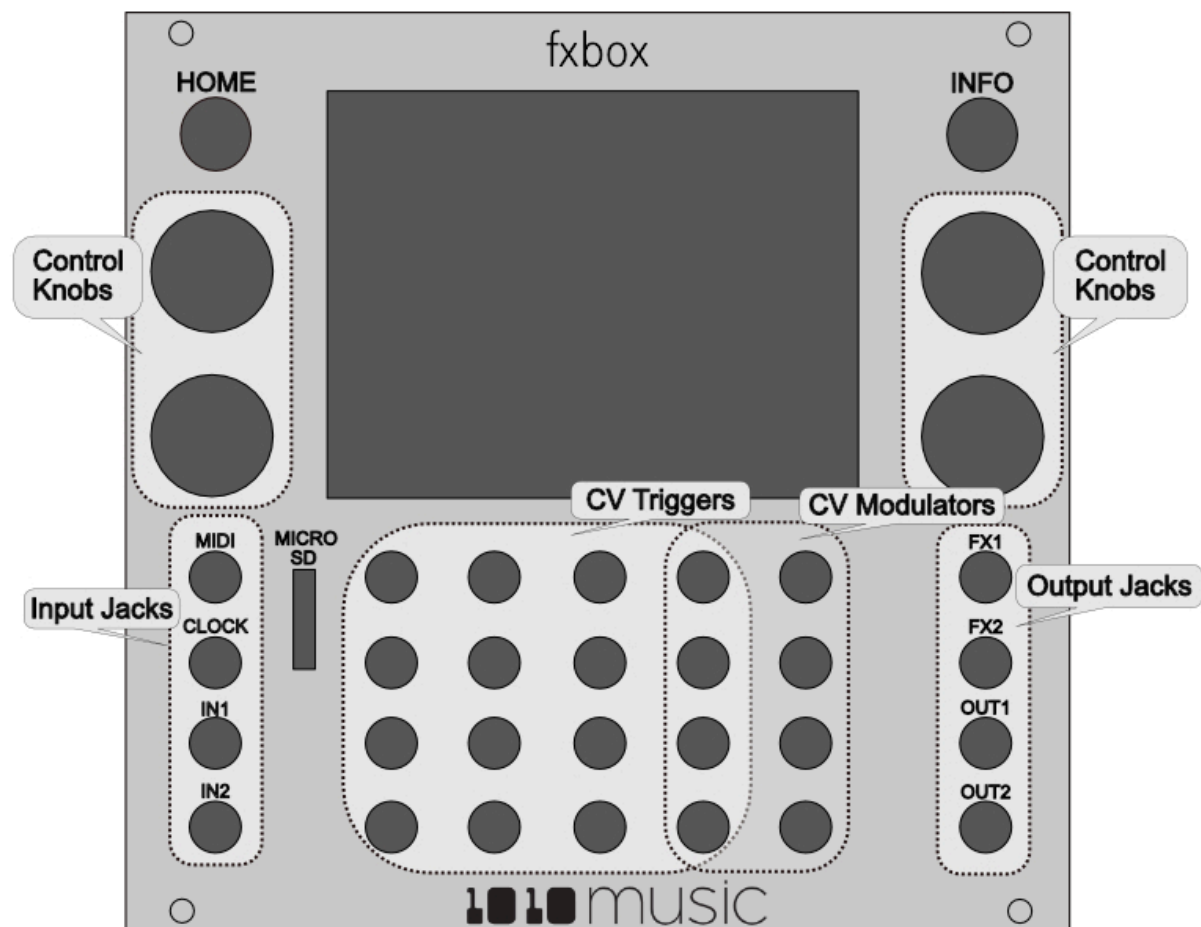

Figure 2: Front Panel Overview

Main Screen Overview

The fxbox Main screen shows a grid of up to 16 effects that have been selected for the current effects chain. The effects are applied by the signal processing chain in the order displayed in the grid, starting in the top left corner and moving from left to right, and top to bottom. Each grid square will show a blue bar across the bottom when that effect is active. The name above the grid is the name of the currently selected preset. Touch the **+** and **–** icons on either side of the preset name to navigate through the list of presets in alphabetical order, or touch the name of the preset to scroll through the list of presets and access other preset management features.

The **A** or **B** button to the right of the preset name indicates which effects chain is currently displayed. Touch this letter to access the Chain Management screen to switch to the other chain or to configure the inputs to the chains. Above the preset name, in the top left corner is the running clock in the format measure:beat. Reset the measure counter by powering down the module, stopping the CV clock input for a few seconds, or sending a MIDI Start signal.

To the right of the clock display you will see a bar graph and a percentage. The bar graph represents the levels of the incoming audio signals: the top bar represents In1, and the bottom bar is In2. When this graph turns red, the signal is overdriving the system and could result in clipping. The percentage number represents the current processor usage. Fxbox gives you a lot of flexibility in choosing how to combine the effects to get the sound you want. However, some combinations could start to overdrive the processor. If this percentage approaches or exceeds 100%, you should consider disabling one or more effects in order to avoid potential audio glitches.

Down the right side of the Main screen there are three boxes that correspond to the top three external inputs that can be used as modulation signals. The blue bar at the bottom of these cells shows the current state of the CV input, with 0V at the middle of the graph. Below these external modulator cells is the **Play** button that controls the effects sequencer. The CV input associated with the Play button can be used to trigger playback and can be used as EXT4 for modulation. The CV inputs for the column of cells just to the left of the EXT1-3 and Play buttons can also be used as modulation signals.
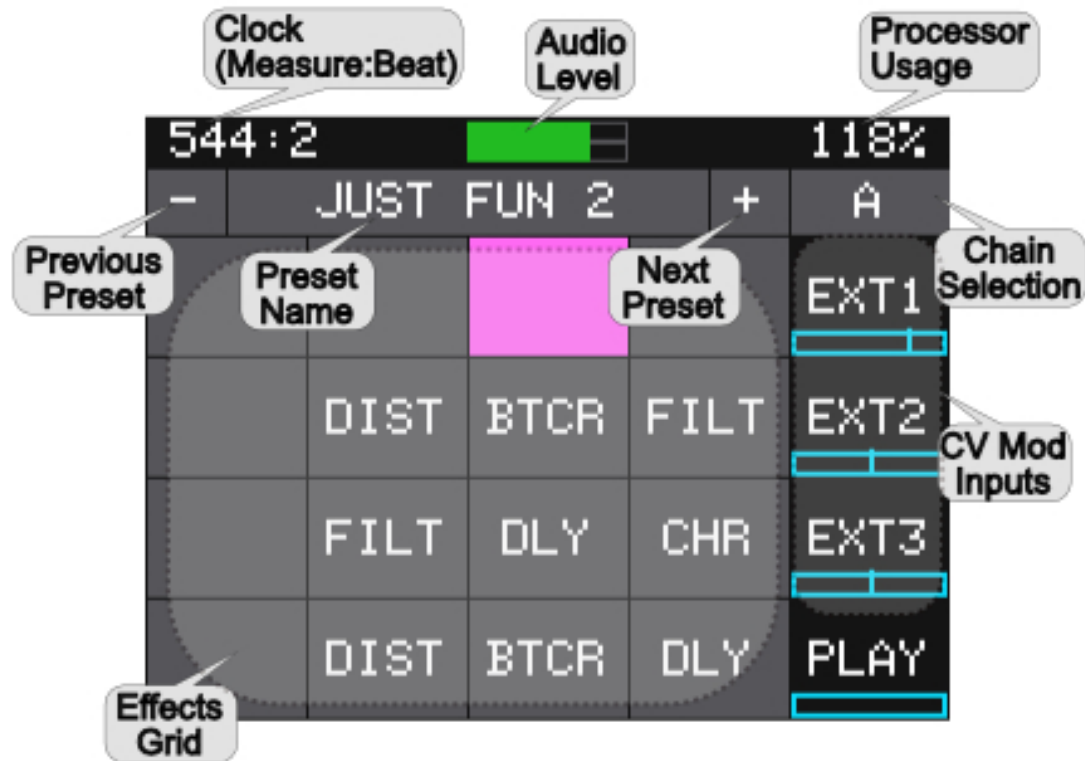

Figure 3: Main Screen Overview

Setup Fxbox

In this section we will discuss how to install the fxbox module in a Eurorack, insert the microSD card, and configure some general settings.

Choose an Orientation

Fxbox can be configured so that the user interface will be right side up with either the touchscreen at the top of the module, or at the bottom. We originally designed the module to run with the touchscreen on the top of the module, and the text on the faceplate right side up. If you are running the module in a tabletop skiff and want to be able to access the touchscreen without reaching over the cables, install the module with the touchscreen at the bottom. That means the text on the front panel will be upside down. (You can purchase a flipped faceplate on our website.) Think about how you want to use the module and decide on the orientation that will work for your setup. We will talk about how to flip the user interface when we configure the general module settings.

> **Note:**
> • When the user interface is flipped, the alignment of the knobs will be slightly higher than the on screen elements that they control. However, the general orientation mapping will be correct.

Rack Installation

Fxbox is compatible with a Eurorack that has a +12V power connection and uses the standard 16-pin ribbon cable to connect to the rack. You should always power down the Eurorack when connecting new modules. Remove fxbox from the packing material and attach the ribbon cable to the back of the module. The cable is the same on both ends so it does not matter which end is inserted into the module. However, the connector must be in the correct orientation. The connector on the module is keyed so the ribbon cable won't fit in the wrong orientation. The correct orientation places the edge of the ribbon cable with the red line on the left side of the module as shown in Figure 4 to the right. Next, connect the other end of the ribbon cable to the power supply for your Eurorack. When connecting to the Eurorack power supply, extra care is needed because not all power supplies are keyed to ensure correct orientation. The ribbon cable should be connected to the power supply so that the edge of the ribbon cable with the red line is aligned with the $-12V$ pins on the power supply bus. When you power up, watch closely to make sure that the module powers up. If the touch screen doesn't respond right away, turn off the rack and confirm the cable orientation. 1010music modules do contain some protection to prevent burning out the module it may not work indefinitely. Don't power up yet.
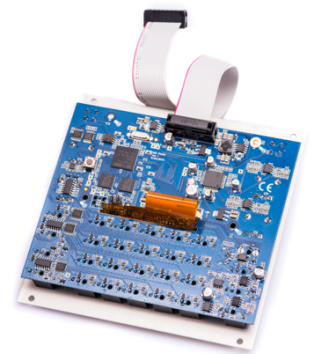
Figure 4: Ribbon Cable Orientation on Module

Install the module into your rack using screws in the four corners of the faceplate to mount the module to the rails of your Eurorack.

Next make sure the microSD card that came with the module is inserted into the **Memory Card Slot**. Most modules come with the microSD card already inserted. The card should be inserted with the straight edge closest to the touchscreen. Now you can power up the rack. The module should start up in less than 10 seconds and you will see the Main screen as shown in Figure 3: Main Screen Overview above.

> **Note:**
> • A microSD card must be inserted into fxbox before you can get started. All presets are stored on the microSD card. Preset changes are only saved when you choose to save them.

Connect an Input

Fxbox accepts several different forms of input. For now we will set up some basic inputs to get you started. Fxbox requires an audio input signal to which effects will be applied. Plug a stereo audio signal into **IN1** and **IN2** using standard TS audio cables.

 If you are going to use a MIDI device to control your fxbox, connect it to the MIDI input on the module.

> **Note:**
> • Not all mini TRS MIDI jacks work the same way. You can use mini TRS cables to connect the fxbox MIDI input to the MIDI output of another 1010music product, or other compatible products. For other products you may need to use a MIDI adapter. For information about MIDI adapters and compatibility see our blog post at https://1010music.com/stereo-minijacks-midi-connections-compatibility-guide.
> •

You can also use Control Voltage (CV) signals to control the effects. Connect some CV signals from other modules or devices to one or two CV Trigger jacks in the array of jacks below the touch screen. To get started, connect one input in the right column of CV Modulator jacks, and another input in one of the first four columns under the touchscreen. Configure your CV source to send a varying CV signal in the -5V to +5V range.

Connect an Output

In order to hear the sound effects created by your fxbox, you will need to connect the outputs to some speakers. Start by inserting two mini TS cables to the OUT1 and OUT2 jacks and then connecting the other ends to your mixer or speakers.

General Module Settings

We are just about ready to put fxbox to work, but we should set up a couple of general module settings first. These settings allow you to control the user interface orientation and the Global MIDI input channel. To access these settings, press and hold the HOME button until you see the Menu screen. Touch **Settings** to display the Settings screen. Use the Control Knob closest to the parameter to adjust its value.

Figure 5: Menu Screen

The **Flip UI** setting will turn the user interface upside down so you can use the module with the touchscreen on the bottom. As soon as you change the value for **Flip UI**, the user interface will be inverted. This means you will need to change which Control Knob you use to change it back.

The **GlobalMIDI** parameter controls which MIDI channel is the default channel used to control the effects. The default is Channel 10, but you can change it to any channel from 1 to 16. You can also select **none** to disable use of the MIDI input.

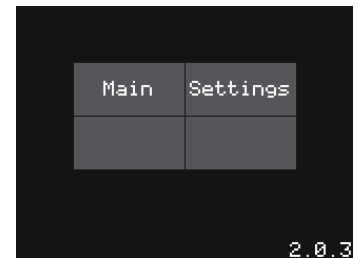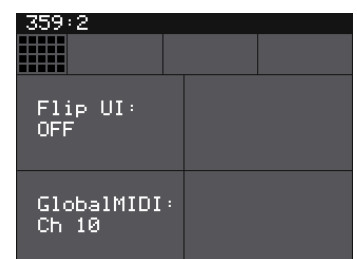When you are done, press the **HOME** button twice to go back to the Main screen.

Figure 6: Settings Screen

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Working in Flipped Mode

When the value for **Flip UI** is set to **ON**, the user interface on the touch screen will be inverted. Use this setting when the module is installed in a rack with the touchscreen on the bottom. When flipped, the firmware adjusts how the buttons, Control Knobs and CV Trigger jacks are mapped to the user interface. One noteworthy change is that the **HOME** and **INFO** buttons now reverse functions. This is done so that HOME is always on the left and INFO is always on the right. The alignment of the Control Knobs in this mode is slightly high compared to the parameters on the touch screen. However, the top left control knob will control the top left parameter, and the lower right control knob will control the lower right parameter. The CV Trigger inputs are also now mapped to the inverted display. The Input Jacks and Output Jacks maintain their original assignments. On the Chain Management Screen, the position of Chain A and Chain B are swapped so that they align to the layout of their related outputs. Figure 7: Inverted Faceplate shows the faceplate labels for an inverted module. You can purchase a Series 1 inverted faceplate on our website at 1010music.com.
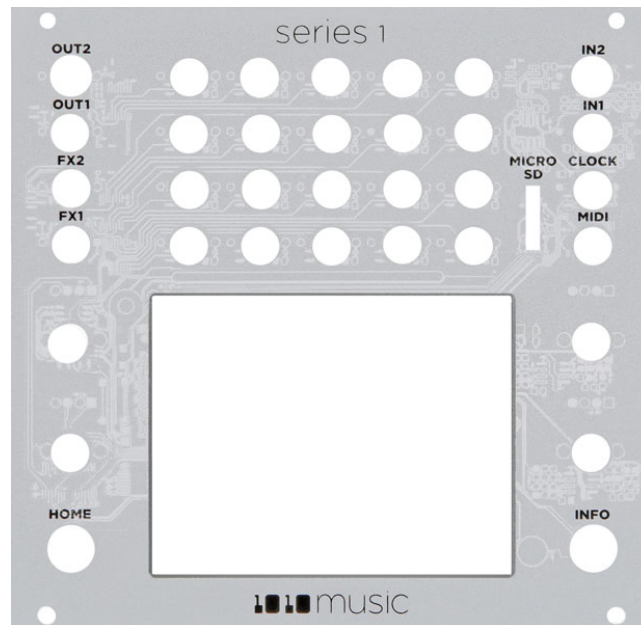

Figure 7: Inverted Faceplate

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Effects Chains

Fxbox supports two effects chains per preset: Chain A and Chain B. The output of Chain A is routed to Out1 and Out2, while the Chain B output is routed to FX1 and FX2. You can choose which of the two inputs is sent through each effects chain.

Configure Inputs for Effects Chains and Select a Chain

Follow these steps to select the inputs for each effect chain:

1. Press HOME to return to the Main screen if needed.
2. Touch the Chain Selection icon (A or B) near the top right corner of the screen. This will display the Chain Management Screen
3. Touch an input button on the left side of the screen to toggle the input for the corresponding chain. Light blue inputs are enabled.
4. Touch a chain box to view the effects grid for that chain on the Main screen.

You can route any combination of inputs to the chains. Connect the audio outputs at Out1, Out2, FX1 and FX2 to an external speaker to hear the results of the effects processing. If you want to monitor the dry signal, send the desired inputs to a chain, and leave the effects grid for that chain empty.
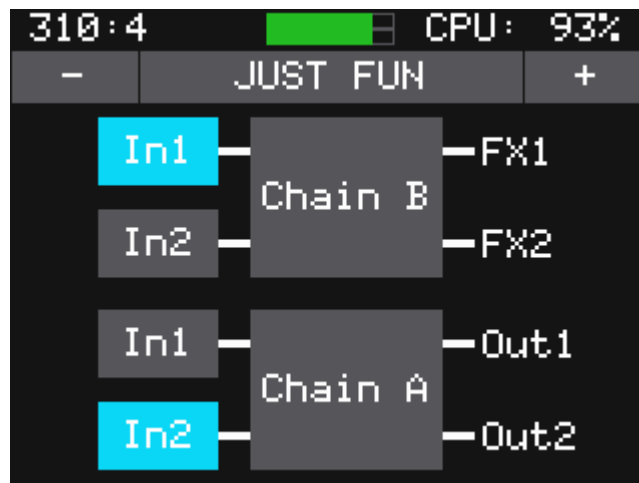

Figure 8: Chain Management Screen

![1010music logo]

Working with Effects

Fxbox takes audio input from **IN1** and **IN2**, processes the configured effects using two distinct effects chains, and sends the results of **Chain A** to **OUT1** and **OUT2,** and the results of **Chain B** to **FX1** and **FX2**.

When fxbox starts up, the touch screen displays the Main screen with the grid containing up to 16 effects for the selected preset. The available effects are listed in the table below:

Figure 9:Main Screen

The effects are applied by the signal processing chain in the order in which they appear in the grid, from top left, moving across to the right and then moving across each subsequent row moving down. You can add or remove effects on the grid for each chain.

Effects can be momentarily enabled using the touch screen, triggered via control voltage (CV) and MIDI inputs, sequenced via individual Gate Sequencers, or set to always on by configuring the parameters for the effect.

Label	Effect	Uses Allowed
BTCR	Bit reduction and sample rate reduction	2
CHR	Chorus	2
DIST	Distortion	2
DLY	Delay	2
FILT	Low or High Pass Filter	8
FLNG	Flanger	2
FRZE	Granulator based freeze effect	1
GATE	Clock based gating	2
LOOP	Automated looping, with quantized start and length	1
PAN	Automated panning	2
PHAS	Phaser	2
PIT	Pitch Shifter	1
RING	Ring modulator	2
RVB	Reverb	1
RVRS	Reverse	1
VNYL	Turntable and similar effects including scratching, tape stop, and backspin	1

Figure 10: Effects List

Momentarily Apply an Effect

If you want to apply an effect manually, you can do so by touching and holding the cell for that effect on the touch screen. The effect is applied while you are touching the cell, and stops when you remove your finger.

Trigger an Effect via Control Voltage Signal

You can use an external signal to control when an effect is applied using independent signals for each effect. To do this, plug a control voltage gate signal into the **CV Trigger** jack that maps to the effect in the grid. The effect will be applied when the CV signal goes high, and be turned off when the CV signal goes low.

Trigger an Effect via MIDI Input

You can trigger an effect by plugging a MIDI controller source into the **MIDI** input jack. The **MIDI** input uses a TRS connection compatible with the Arturia BeatStep Pro. Be sure to use a TRS cable. By default, Fxbox responds to **MIDI** inputs on MIDI Channel 10. You can select a different MIDI port on the Settings screen, as described in General Module Settings above. **MIDI** inputs for notes 36 to 51 are mapped to the effects in the grid as shown in the diagram to the right. The **Play** button is mapped to note 52 and will toggle play mode.

48	49	50	51	
44	45	46	47	
40	41	42	43	
36	37	38	39	52

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Set an Effect to be Always On

Many effects can be configured to always stay on by setting the **Trigger** parameter for the effect to **ON**. The steps to edit effect parameters are outlined below. Please note that not all effects have a **Trigger** parameter.

Add or Change An Effect on the Grid

You control which effect is used in each cell of the grid.

1. Touch the cell you want to modify. This can be an empty cell or a cell with an effect loaded. The selected cell will have a pink background.
2. Press the INFO button to view the parameters screen for the effect.
3. In the top left corner, near the grid icon, touch the name of the effect type, which is (none) for an empty cell. The list of available effect types is displayed. Touch an effect to select it for this cell.
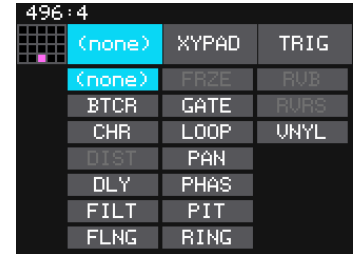
Note:
* There is a limit to the number of times you can use each effect type per preset. The number of allowed uses varies based on the computing resources required for that effect type. Effects that are no longer available are grayed out. See the effects list table above to review how many times each effect type can be used.
* To delete an effect from a cell, choose the effect type of (none).

Figure 11: Effect Selection Menu

Edit the Parameters of an Effect

Each effect in the grid has a set of parameters that control how and when the effect is applied to the input signal. Follow these steps to edit the parameters for an effect:

1. Touch the cell of the effect in the grid on the **Main** screen to select it.
2. Push the **Info** button in the top right corner of the fxbox. You will see parameters specific to that effect, such as **Trigger**, **Delay** and **Feedback**. Press **Info** again to access additional pages of parameters if available for that effect. Here are a few examples:
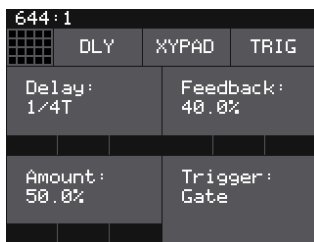
Figure 13: Delay Parameters Page 1

Figure 12: Delay Parameters Page 2
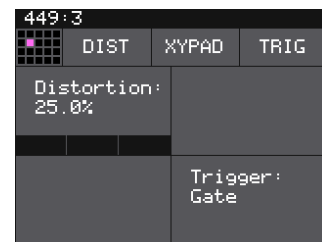
Figure 14: Distortion Parameters

3. Adjust a parameter by turning the **Control Knob** next to it. Turn the **Control Knob** clockwise to increase the impact of the effect.

Use the XY Pad to Control Parameters

The XY Pad allows you to use touch gestures to control the values of the two parameters on the left side of the first parameters screen for each effect.

1. Touch the cell of the effect in the grid on the **Main** screen to select it.
2. Push the **Info** button to see the first parameters page for that effect.

3. Touch **XYPAD** in the top middle of the screen to enable the touch control of the two left parameters. The XYPAD button will be shaded blue and the parameters screen background will be black when XY control is enabled.
4. Move your finger left and right to control the top parameter, up and down to control the bottom parameter. Move right and up to increase the intensity of the effect.
5. Touch **XYPAD** again or leave the screen to stop the touch control of the parameters.
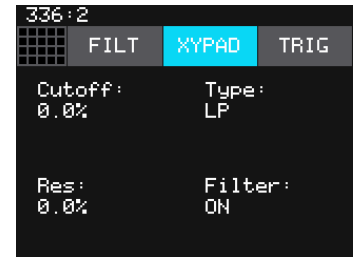
Bypass Effects

Fxbox allows you to temporarily bypass or mute individual effects by following these steps:

Figure 15: XYPAD Enabled

1. While on the **Main** screen, push the **Home** button to enter bypass mode. The grid cells will be green.
2. Touch a cell to bypass that effect. The cell will turn red. Touch it again to enable the effect, which will make it green.
3. Push the **Home** button to leave bypass mode. A red bar appears over the names of bypassed or disabled effects.
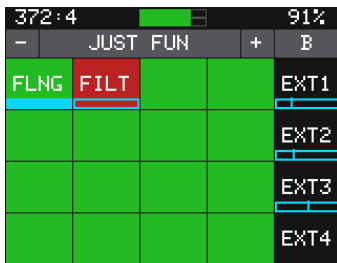
Figure 16: Bypass Screen with FILT Muted

Figure 17: Main Screen with FILT Muted

Effect Parameters

The table below describes the parameters for each of the effects.

Label	Effect	Parameter	Settings	Mod Target?
BTCR	Bit reduction and sample rate reduction	**Frequency**	0 to 100% Determines sampling frequency from 187Hz to 48kHz.	Yes
		Resolution	0 to 100% Determines output resolution from 1 bit to 24 bits.	Yes
		Trigger	**ON:** the effect is constantly applied. **Gate:** effect is triggered via CV input, momentary touch, MIDI input, or the step sequencer.	No
CHR	Chorus	**Amount**	0 to 100% Controls the intensity of the effect.	Yes
		Trigger	**ON:** the effect is constantly applied. **Gate:** effect is triggered via CV input, momentary touch, MIDI input, or the step sequencer.	No
DIST	Distortion	**Distortion**	0 to 100% Amount of distortion.	Yes
		Trigger	**ON:** the effect is constantly applied. **Gate:** effect is triggered via CV input, momentary touch, MIDI input, or the step sequencer.	No
DLY	Delay	**Delay**	Determines the delay length specified in musical intervals. The incoming clock or MIDI clock sets the tempo for this setting.	Yes

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Label	Effect	Parameter	Settings	Mod Target?
			1/64, 1/32, 1/16, 1/8 T, 1/16D, 1/8, 1/4T, 1/8D, 1/4, 1/2T, 1/2, 1 bar	
		Amount	0 to 100% Determines how much of the delayed signal is heard in the output.	Yes
		Feedback	0 to 100% Determines the amount of regeneration or echo in the delayed signal.	Yes
		Trigger	**ON:** the effect is constantly applied. **Gate:** effect is triggered via CV input, momentary touch, MIDI input, or the step sequencer.	No
		Beat Sync (new)	The delay time will be a musical multiple of the working clock when this parameter is set to **ON**.	No
FILT	Low Pass Filter	**Cutoff**	0 to 100% Determines the filter cutoff from 20Hz to 22kHz	Yes
		Res	0 to 100% Determines the filter resonance.	Yes
		Type	**LP:** Low pass filter **HP:** High pass filter	No
		Filter	**ON:** the filter effect is applied. **OFF:** the filter effect is not applied.	No
FLNG	Flanger	**Rate**	0 to 100% Controls the rate at which the effect sweeps through the full range from 0.1Hz to 10Hz.	Yes
		Feedback	0 to 100% Determines the amount of feedback or intensity of the effect.	No
		Trigger	**ON:** the effect is constantly applied. **Gate:** effect is triggered via CV input, momentary touch, MIDI input, or the step sequencer.	No
FRZE	Granulator based freeze effect	**Speed**	-100% to 100% Determines the scanning of the read position once the effect is held. -100% is reverse at original speed. 0% is held in place. 100% is scanning forward at the original speed.	Yes
		Spread	128 to 8192 Determines the width or range of the random area that the grains pull from. Small numbers are better for short events like drum hits. Big numbers are better for more steady sounds, like drones.	No
		Grain Size	1024, 2048, 4096, 8192 Determines the length of the individual grains. Small numbers are better for short events like drum hits. Big numbers are better for tones and more steady sounds.	No
		Grain Count	2 to 8 Determines the number of layers or complexity of the sound.	No
GATE	Clock based gating	**Length**	Determines the overall interval for the gate specified in musical length. The incoming clock or MIDI clock sets the tempo for this setting. 2 bars, 1 bar, ½, ½ T, ¼ , ¼ T, 1/8 , 1/8 T, 1/16, 1/16 T, 1/32, 1/32 T, 1/64	Yes
		Duty Cycle	0 to 100% Determines how much of the audio in the interval is passed through.	Yes
		Quant Size	Determines when the effect will be engaged or	No

Label	Effect	Parameter	Settings	Mod Target?
			disengaged as specified in musical length. The incoming clock or MIDI clock sets the tempo for this setting. 2 bars, 1 bar, ½, ½ T, ¼ , ¼ T, 1/8 , 1/8 T, 1/16, 1/16 T, 1/32, 1/32 T, 1/64	
		Trigger	**ON:** the effect is constantly applied. **Gate:** effect is triggered via CV input, momentary touch, MIDI input, or the step sequencer.	No
LOOP	Automated looping, with quantized start and length	**Length**	Determines the duration of the loop specified in musical length. The incoming clock or MIDI clock sets the tempo for this setting. 2 bars, 1 bar, ½, ½ T, ¼ , ¼ T, 1/8 , 1/8 T, 1/16, 1/16 T, 1/32, 1/32 T, 1/64	Yes
		Quant Size	Determines when the effect will be engaged or disengaged as specified in musical length. The incoming clock or MIDI clock sets the tempo for this setting. 2 bars, 1 bar, ½, ½ T, ¼ , ¼ T, 1/8 , 1/8 T, 1/16, 1/16 T, 1/32, 1/32 T, 1/64	No
PAN	Automated panning	**Rate**	0 to 100% Controls the rate at which the effect sweeps through the full range from 0.1Hz to 10Hz	Yes
		Trigger	**ON:** the effect is constantly applied. **Gate:** effect is triggered via CV input, momentary touch, MIDI input, or the step sequencer.	No
PHAS	Phaser	**Rate**	0 to 100% Controls the rate at which the effect sweeps through the full range from 0.1Hz to 10Hz.	Yes
		Feedback	0 to 100% Determines the amount of feedback or intensity of the effect.	No
		Trigger	**ON:** the effect is constantly applied. **Gate:** effect is triggered via CV input, momentary touch, MIDI input, or the step sequencer.	No
PIT	Pitch Shifter	**Pitch**	-24 semitones to +24 semitones	Yes
		Wet/Dry	Determines how much of the original signal (dry) and processed signal (wet) are heard. 0 % is fully dry. 50% is an equal mixture of both. 100% only contains the wet signal.	No
		Trigger	**ON:** the effect is constantly applied. **Gate:** effect is triggered via CV input, momentary touch, MIDI input, or the step sequencer.	No
RING	Ring modulator	**Carrier**	0 to 100% Determines the pitch of the carrier signal.	Yes
		Amount	0 to 100% Determines the intensity of the modulation.	Yes
		Trigger	**ON:** the effect is constantly applied. **Gate:** effect is triggered via CV input, momentary touch, MIDI input, or the step sequencer.	No
RVB	Reverb	**Decay**	0 to 100% How long the reverberation will ring out.	Yes
		Amount	0 to 100% Determines how much of the reverberation is heard in the output.	Yes
		Predelay	0 to 100% Determines the amount of delay in the signal before it reaches the reverberation. In real life, this is related to how close the source is to the walls.	No

Label	Effect	Parameter	Settings	Mod Target?
		Trigger	**ON:** the effect is constantly applied. **Gate:** effect is triggered via CV input, momentary touch, MIDI input, or the step sequencer.	No
RVRS	Reverse	**(none)**		
VNYL	Turntable and similar effects including scratching, tape stop, and backspin	**Mode**	**Tape Stop:** a quick ramp down of pitch **Scratch:** back and forth scrubbing of the sound **Powerdown:** a gradual reduction in speed, eventually leading to no audio **Backspin:** reverse playback with slowdown of the pitch	No

Visually Monitor the Effects

The fxbox changes the display of the grid to show the state of the effects. The table below describes what the icons and color changes indicate:

User Interface Example	Description	What it means
RVB	Cell highlighted pink	The cell is selected. Pressing the INFO button will show the details for this cell.
FILT	Red bar across the top of the cell	The effect is bypassed and will not be heard
FILT	Unfilled blue bar across the bottom of the cell	The Trigger for the effect is set to On.
FLNG	Filled blue bar across the bottom of the cell	The effect has been triggered by a CV signal, the Step Sequencer, or touching it.
FLNG FILT	Cell highlighted Red or Green	Fxbox is in bypass mode. Red cells are bypassed. Press the **Home** button to exit bypass mode.
EXT2	Blue bar with a vertical line moving across it at the bottom of an EXT grid cell	A bar graph appears along the bottom of the **EXT** grid cells that represents the value of the corresponding CV input. The middle is zero, max is +5 Volts, min is -5 Volts.

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Working with Presets

Presets are sets of configuration parameters for effects that are designed to work together to achieve an overall effect. Fxbox comes with 50 preconfigured presets and allows you to create your own. Changes you make to a preset are not saved until you choose to save them. All changes will be lost when you change presets or power down the module unless you choose to save the changes.

Select a Preset

There are two ways to select a preset. From the Main screen, you can cycle through the list of presets by touching the **–** and **+** buttons on either side of the preset name (**JUST FUN 2** in the Main Screen example shown on the right).

Alternatively, on the Main screen, touch the preset name at the top of the grid (or the space above it) to display the Presets screen. Select a Preset by scrolling through the list with any of the control knobs, and then touch the **Load** button in the top right corner of the touch screen.
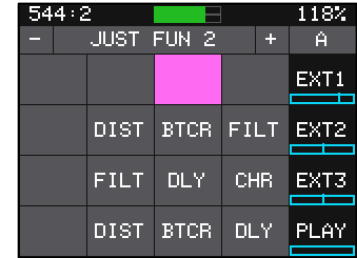
Figure 18: Main Screen

> **Note:**
> • Changes you make to a preset's settings are not automatically remembered and written to the preset. You must manually save a preset, otherwise your changes will be lost when you change to a new preset or power down the module.
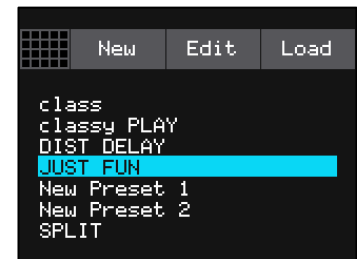> • If you want to restore the factory presets, follow the steps in Updating and Swapping Firmware below

Figure 19: Presets Screen

Save a Preset

When you are ready to save your changes to a preset, you have two options: **Save** to save over the existing preset, or **SaveAs** to create a new file that contains the changes to the preset.

1. Touch the preset name at the top of the grid (or the space above it) to display the Presets screen.
2. Touch the **Edit** button to display the Edit Submenu.
3. Touch **Save** or **SaveAs**. If you choose Save, the preset changes are saved to the original preset file and the Main screen is displayed. If you choose SaveAs, the Preset Naming screen is displayed. Use the on screen keyboard to change the name of the preset, then touch **return** in the lower right to save the changes to the new file.
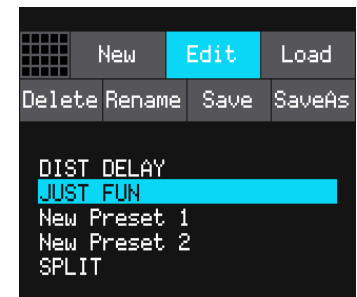
Figure 20: Edit Submenu

Create a New Preset

You can create new presets to store your own combinations of effects parameters by following these steps:

1. Push the **HOME** button to return to the Main screen if needed.
2. Touch the preset name at the top of the grid (or the space above it) to display the Presets screen.
3. Touch the **New** button at the top of the screen. Fxbox adds a new preset to the bottom of the list with the name New Preset X, where X is an incremental number.
4. Touch **Edit** and then **Rename** to create your own name for the preset.
5. Touch the **Load** button in the top right corner of the screen to load the newly created preset.

Rename a Preset

Here's how to give a preset a new name:

Figure 21: Preset Naming Screen

1. From the Presets screen, touch the **Edit** button at the top of the screen to display the Edit submenu.
2. Use a control knob to select the preset you want to rename, and then touch the **Rename** button. The fxbox displays a touch screen keyboard you can use to enter a new name. Touch the **return** button to save the changes and go back to the Presets screen.
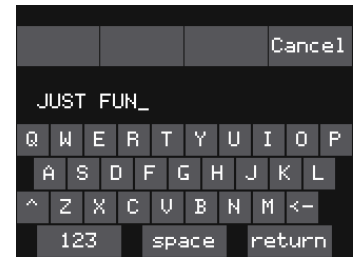
Delete a Preset

Follow these steps to delete a preset. Warning: there is no undo, and no prompt to ask "are you sure?" So make sure you are on the correct preset before you use this. If you do accidentally delete a preset, you can reload it from the factory image or a back up using the steps outlined in Reset fxbox Presets to Factory Settings below.

1. Touch the **Edit** button at the top of the Presets screen to display the Edit submenu.
2. Use a control knob to select the preset you want to delete, and then touch the **Delete** button. The preset is immediately deleted.

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Working with the Step Sequencer

The Step Sequencer creates a recurring pattern that controls when effects are applied. You can have a different pattern for each effect.

Start and Configure the Step Sequencer

1. On the Main screen, touch the **Play** button in the lower right corner to start the Step Sequencer if needed.
2. With the **Play** button selected, push the **INFO** button to see the Step Sequencer Parameters screen.
3. Use the control knobs to adjust the following parameters:

| Parameter	Settings
Sequencer	**ON:** The Step Sequencer will run constantly **OFF:** The Step Sequencer will run in Toggle mode. Start and stop the Step Sequencer by pressing the **Play** button on the Main screen or sending a CV signal to the bottom CV Modulator jack. Each high signal on the CV input toggles between Play and Stop mode. An unfilled blue bar appears at the bottom of the Play cell when the Step Sequencer is playing.
Length	The length of each step in the sequence. **Values:** 2 bars, 1 bar, ½, ½ T, ¼ , ¼ T, 1/8 , 1/8 T, 1/16, 1/16 T, 1/32, 1/32 T, 1/64
Steps	The number of steps in the sequence. **Values:** 2 through 32
Quant Size	Determines when the sequencer will be engaged or disengaged as specified in musical length. The incoming clock or MIDI clock sets the tempo for this setting. **Values:** 2 bars, 1 bar, ½, ½ T, ¼ , ¼ T, 1/8 , 1/8 T, 1/16, 1/16 T, 1/32, 1/32 T, 1/64
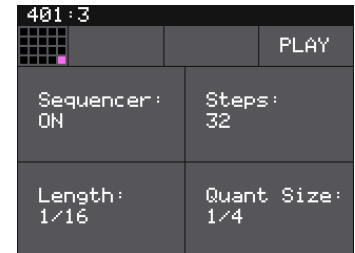
Figure 22: Step Sequencer Parameters Screen

Sequence an Effect

1. From the Main screen, select an effect to sequence by touching the grid cell.
2. Push the **INFO** button twice to display the Step Sequencer screen. A box outline moves across the grid to represent the currently playing step of the sequencer. The number of boxes the sequencer moves through is controlled by the **Steps** parameter. The time spent in each box is controlled by the **Length** parameter. The sequencer starts in the lower left corner, moves across to the right, and then moves up to the next row.
3. Touch the grid boxes on the screen to enable and disable the gate for the effect on each step. The effect is enabled for the step when the grid box is highlighted blue.
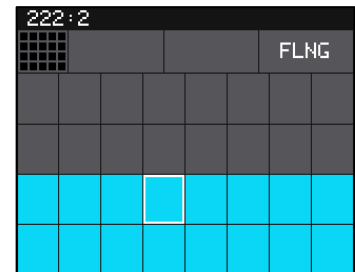4. Repeat steps 1 through 3 for other effects as desired.

Figure 23: Step Sequencer Screen

On the Main screen, you can see the Step Sequencer in action by watching the blue bars that appear below the effects grid cells when the sequencer enables the effect. You can have a different step sequence for each preset.

Using External Signals to Modulate Effects and Synchronize with Clocks

Use Control Voltage to Modulate Effects

Many of the effect parameters can be controlled by external CV inputs in order to vary the effect over time. For example, you can use EXT1 to control the Pitch parameter of a PIT cell, or EXT8 to vary the Rate of panning. The table in the Effect Parameters section above shows which parameters are Mod Targets that can be controlled by CV. On the parameter screens you can easily identify the modulation targets by the three black boxes that appear below them. You can use up to three different CV signal sources to modulate each parameter. The same signal can be used to modulate multiple parameters.

To configure modulation for a parameter:

1. From the Main screen, touch the cell you want to modulate.
2. Press **INFO** until you see the parameter you want to modulate.
3. Touch one of the three black boxes below the parameter to display the Modulation Parameters screen.
4. Use the control knobs to select a value for the Source parameter. This parameter specifies which signal will be used to control this parameter. Available values are None (no modulation) and EXT1 through EXT8. EXT1 through EXT8 are the CV inputs into the right hand columns of jacks under the screen.

   Note:
   - The Control Voltage jacks on fxbox map to the EXT modulators as shown in the diagram below:

			EXT5	EXT1
			EXT6	EXT2
			EXT7	EXT3
			EXT8	EXT4

5. Use the Control Knobs to select the **Amount** of modulation that will be applied. This is used to increase or decrease the amount of impact the modulation will have on this parameter.
6. Press HOME when done to return to the parameter screen. The name of the chosen modulation source will now appear in the modulation box below the parameter.

Synchronize the Effects to an External Timing Input

Fxbox uses the clock for two things: to control the step sequencer, and to control the timing of effects like Delay and Gate. To synchronize to an external clock, connect one of the following timing signals to fxbox:

- Connect an external CV clock to the **Clock** input jack. Fxbox works from a 4 PPQ signal.
- – *OR* – Connect a TRS MIDI cable to the **MIDI** input jack.

To restart using a CV clock, stop the external **Clock** source for at least 2 seconds, and then restart the external **Clock** source. Fxbox will interpret this break in the clock as the start of a new sequence. To restart via MIDI, send a MIDI start command. The current clock timing is shown in the upper left of the Touch Screen as **Bars:Beats**.

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Updating and Swapping Firmware, Audio Files and Presets

Fxbox is part of the Series 1 group of modules from 1010music. All Series 1 modules use the same hardware and can be reprogrammed to run the firmware from any Series 1 module, which currently includes fxbox, bitbox and synthbox.

This process can also be used to update the firmware on fxbox to get bug fixes and new features. The firmware can be updated with the factory image, which includes the original presets, or just the firmware itself. You can also choose individual presets to copy over to your microSD Card.

Switch to a New MicroSD Card While Operating Fxbox

You can switch to a different microSD card while operating fxbox. Simply remove the current card and insert the new one, then use the Preset menu to load a preset from the new card.

Backup Your Preset Files

Before you re-use a microSD to update or swap firmware, backup the files that are stored on the microSD card:

1. Remove the microSD card from your module and insert into your computer. You may need to use a microSD adapter.
2. Copy the files from the microSD card onto your computer.

Install New Firmware

Here are the steps required:

1. Download the desired firmware onto your computer. You can choose to download either fxbox, synthbox or bitbox firmware, but only one set of firmware can run at a time. You can find the latest firmware images on our forum at https://forum.1010music.com under the Firmware Downloads forum. You must register for the forum in order to access the download files. Forum registration is free.
2. Unpack the zip file. Some browsers do this automatically for you.
3. If you want to replace the Presets with the factory image, copy the full contents of the zip file onto a microSD card. If you do not want to overwrite your presets, copy only the **MATRIX.BIN** file to the microSD card.
4. Place the microSD card in your module.
5. While powering up the unit, hold the **Home** and **Info** buttons. When you see the message about upgrading the firmware, you can let go.
6. When the upgrade finishes in about 15 seconds, the unit will restart with the new software.

Reset fxbox Presets to Factory Settings

If you want to reset one or more of the fxbox Presets to the original factory settings, you can copy individual preset files onto your microSD card.

1. Download the fxbox firmware onto your computer. You can find the latest firmware images on 1010music.com under Support.
2. Unpack the zip file. Some browsers do this automatically for you.
3. Find the .fxb file in the unpacked folder that has the same name as the preset you want to restore, for example 02BadTapeEcho.fxb. Copy the .fxb file onto the microSD card to replace the file on the card.
4. Insert the microSD card into the fxbox.
5. Push the **HOME** button to return to the **Main** screen if needed.
6. Touch the preset name at the top of the grid (or the space above it) to display the **Presets** screen.
7. Select any preset and touch the **Load** button to get fxbox to load the updated presets.

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Stay Up To Date

Demonstration Videos and Latest Docs
You can find video demonstrations and documentation for fxbox and our other modules on our website at
http://1010music.com/support-2. You can also look there for updated versions of this user manual.

Connect with the 1010music Community
There is a very active community of users of 1010music modules at forum.1010music.com. If you have a question about the module that isn't answered in this manual, this is your best source for help. We actively monitor the wish list sub-forums for ideas for future versions of our products. Forum registration is free. We hope to see you out there!

Contact Us
Are you loving fxbox? Have questions? You can contact us through our website at http://1010music.com/contact-us.

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